SUB F1

--43. A transformed yeast cell comprising a reporter gene under control of a pheromone-responsive promoter, a heterologous G protein-coupled receptor gene, each said gene being under the control of a separate promoter, a mutation in a SCG1/GPA1 gene, and a hybrid Gα protein.

44. The hybrid Gα protein of claim 43 comprising yeast Gα protein sequences and heterologous Gα protein sequences.

45. The yeast cell of claim 43 further comprising a gene mutation causing increased sensitivity to receptor activation selected from the group consisting of sst2, svg1, ste2, and ste3.

46. The yeast cell of claim 45 further comprising a mutation at a gene that permits transcriptional activation of pheromone responsive genes without cell cycle arrest.

47. The yeast cell of claim 43 wherein the reporter gene is selected from the group consisting of HIS3, URA3, LYS2, CAN1, and LacZ, and the pheromone responsive promoter is FUS1.

48. The yeast cell of claim 47 further comprising a mutation at a FAR1 gene that permits transcriptional activation of pheromone-responsive genes without cell cycle arrest.

49. The yeast cell of claim 47 further comprising a mutation at a gene that permits transcriptional activation of pheromone-responsive genes without cell cycle arrest.

50. The yeast cell of claim 43 further comprising a heterologous Gα subunit.

51. The heterologous G protein coupled receptor gene of claim 43 which encodes a receptor selected from the group consisting of β2 adrenergic receptor, α2-adrenergic receptor, 5HT-1A receptor, muscarinic acetylcholine receptor, growth hormone releasing factor receptor, and somatostatin receptor.--